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ABSTRACT

In an effort to meet the need for a more comprehensive program evaluation, staff at Moraine Valley Community College developed a questionnaire and interview schedule to obtain feedback from employers concerning career programs. Questionnaires were sent to all employers who hired graduates of occupational programs between 1969-71; over 80% returned the questionnaires. A sample were selected for the interview phase as well; interview schedules were completed for 60% of the sample. Factor analysis of the original 25-item questionnaire designed to evaluate technical, human relations and problem-solving skills revealed that employers evaluated graduates using a two-dimensional structure that included only technical and human relations skills. Results showed that: (1) employers rated as effective or highly effective their employees' training; (2) evaluations for public service, health and business programs were similar; (3) public service graduates were rated slightly higher in technical skills than business and health graduates; (4) personality factors were mentioned most often as areas of strength or weakness; (5) the chances for advancement of half the graduates were rated higher than the chances of other employees in similar positions; (6) supervisors were interested in hiring graduates; and (7) a positive correlation exists between college evaluation and job performance evaluation. Program changes were recommended on the basis of these data. (KM)

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Employer Evaluation of Occupational Programs*

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Effective community college occupational program planning requires a comprehensive evaluation system. Typical components of existing evaluation systems focus on student enrollment, attrition, number of graduates, unit costs and cost-benefit ratios. Additionally, most authors (Henderson, 1970; Butler and York, 1971; Suffolk County, 1969; and Banathy, 1973) advocate the use of follow-up surveys of the graduates and their employers.

Little evidence existed, however, that community colleges had conducted employer follow-up surveys. For example, in a national survey of technical and community colleges, American College Testing Corporation (Garland and Carmondy, 1970) found only one two-year college (Brandywine College, 1970) which reported conducting an employer survey. Brandywine's survey was limited to two open-ended questions. Generally, community colleges which conduct follow-up study activities survey only the graduates.

In an effort to meet the need for a more comprehensive program evaluation scheme, staff at Moraine Valley Community College (MVCC) have identified career program evaluation procedures which include feedback from employers (see Figure 1). The following activities comprise the MVCC employer evaluation system: identification of job performance competencies, designation of program goals, development of behavioral objectives, identifying major skill areas, instrument development and revision, and data reporting.

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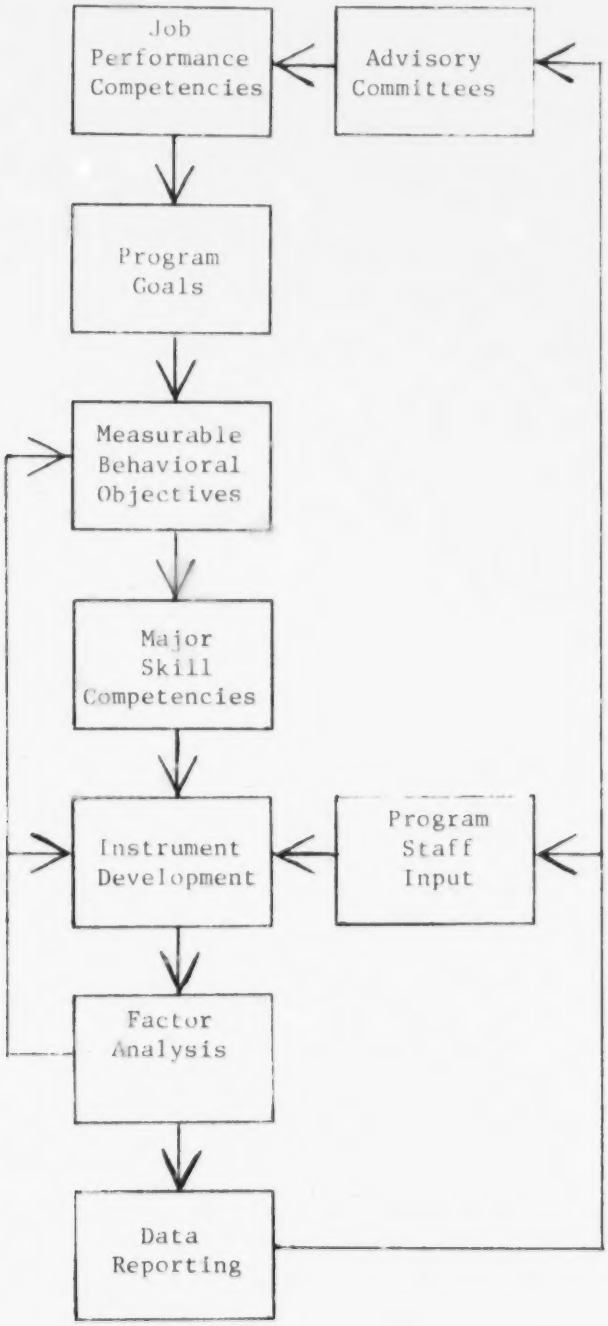
Figure 1

Curriculum Development and Evaluation System



Procedures

The college's Follow-Up Study Committee initiated the development of the survey instruments (see Appendix A for revised instruments). Staff from each of the college's program areas assisted in developing questionnaire items and open-ended questions which were relevant to their area of concern. As a result of extensive staff participation, content validity can be claimed for the questionnaire items.

The committee agreed that a common instrument should be developed which would allow for inter-program comparisons. The major assumption underlying the use of the same instrument to evaluate different program graduates was that a given type of work or work situation involves generally the same "job requirements" irregardless of the activity or the situation.

In addition to the questionnaire items, an interview-schedule was developed to enrich the data analysis and to gather data specific to individual programs. Also, the interview-schedule allowed data gathering flexibility for work requirements specific to individual programs which may not have been covered in the questionnaire. Using the critical incident technique (Flanagan, 1954), two interview items were developed to ascertain if the structured questionnaire items were relevant to all programs. Other interview questions pertained to the employee's chances for advancement and the employee's overall strengths and weaknesses.

The population of employers, who hired graduates of occupational programs between 1969-71, involved in the study had been identified by career graduates from those years in a follow-up survey conducted during fall, 1972. Names of employers for graduates not identified in the survey were provided by program coordinators.

All employers were sent a copy of the questionnaire. Over 80 per cent of the employers returned questionnaires. In addition to completing the questionnaire, a sample of these employers was randomly selected for the interview phase of data gathering. Employers who were to be interviewed were notified that they would be telephoned for an appointment by an MVCC staff member for the interview phase of the data gathering. Interview-schedules were completed for 60 per cent of the sample.

Results and Program Recommendations

Staff at MVCC have conducted two employer follow-ups using the specified procedures. The following results are based on the first survey conducted spring, 1972. Data from spring, 1973 survey are currently being analyzed.

Examples of data display are presented in Figures 2 and 3. Figure 2 displays a composite mean score value for the program areas and the related skill areas. Small differences existed between the three program areas. Figure 3 displays an example of an individual skill area (technical skill) and the rank order of the individual program areas.

Results for each of the occupational programs (e.g., business-mid-management) were tallied and communicated to the program director, coordinator and staff involved in that program. No attempt was made to make any further statistical analysis on individual programs because of the small number of graduates evaluated for each program. A case study describing how data on an individual program resulted in course revision can be found in Appendix B.

Data gathered from the interview-schedule were limited because interviews were conducted in only the business and public service areas. However, information gathered in the interview procedure did lead to some of the conclusions included in the final report (see Appendix C for a summary

Figure 2

Example of Inter-Program Comparisons
on the Skill Competency Areas

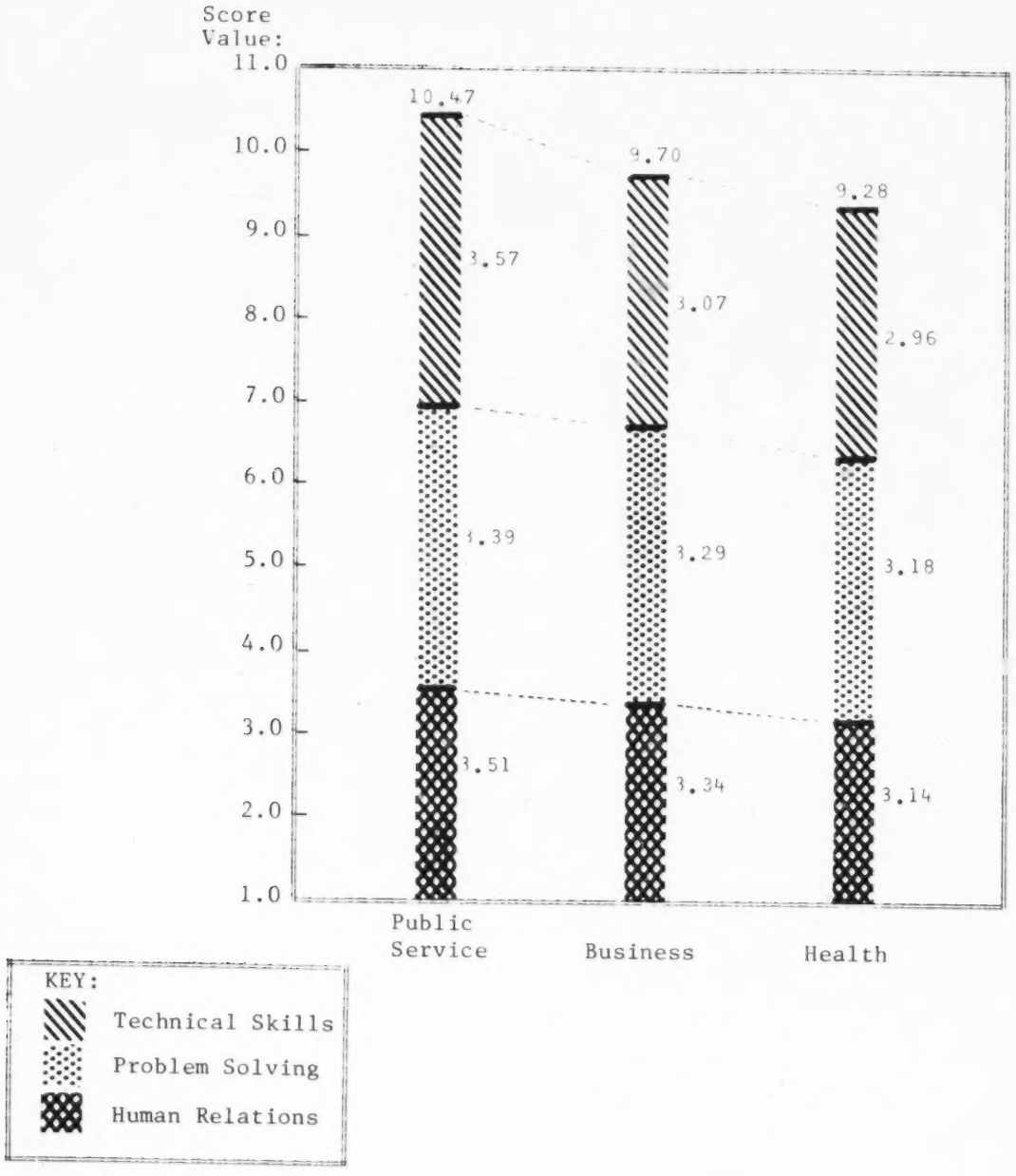
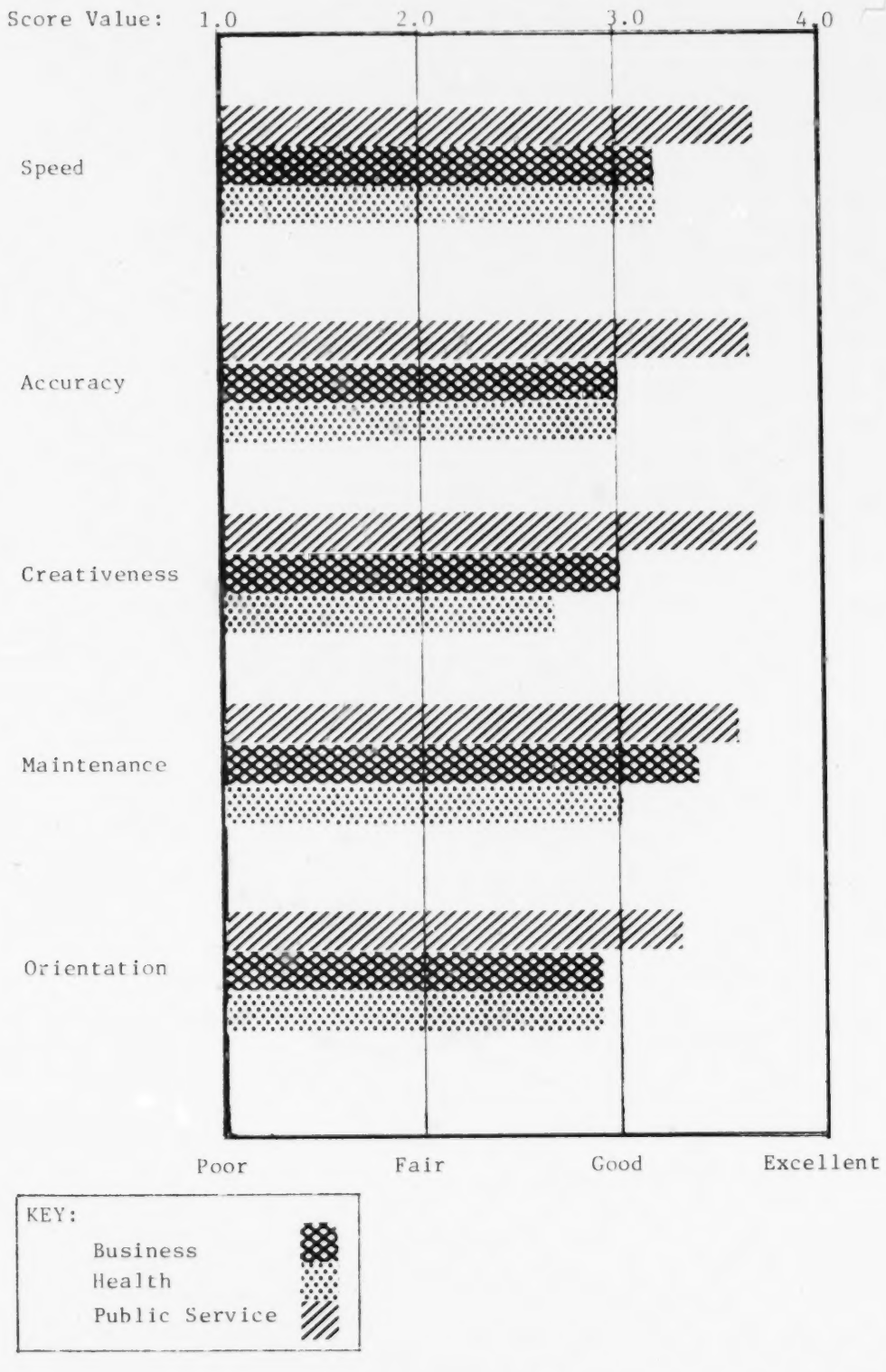


Figure 3

Example of Individual Skill Area
And Inter-Program Comparison



of the results). Other data gathered from the interview process were incorporated into the data analysis summary sections for the questionnaire items. On the basis of the data collected from the interviews, the questionnaire items appeared to be relevant to each of the program areas and represented the range of skills the employer desired.

In order to examine the nature of the major skill areas, a factor analysis of the data was performed. Because complete data were not available for all subjects, Veldman's (1967) missing data option was used with his principal component-varimax rotation program (eigenvalue set at 1.00).

Factor analysis of the original 25 item questionnaire designed to evaluate technical, human relations and problem-solving skills revealed that employers evaluated graduates using a two-dimensional structure which included only technical and human relation skills. Factors and their corresponding loadings for each item are displayed in Appendix D. A total of 56 per cent of the variance was accounted for by these two factors.

The Follow-Up Committee made several changes in the original questionnaire for the second follow-up in spring, 1973. Changes in the questionnaire were: the "creativeness" item in the technical skill section was rewritten; the human relations items were split into two sections one relating to communication, the other relating to interpersonal relations. No changes were made in the "problem-solving section."

Another factor analysis of the revised instrument has been performed and the results from the 1973 survey confirm the previous finding of a two factor structure of human relations and technical skills (see Appendix E for the item loadings).

As a result of the entire data analysis after the first follow-up several program recommendations were formulated by the Follow-Up Committee.

The recommendations were:

A. For all occupational programs, review the written communication objectives for Com 111 and 112, and develop recommendations for implementing changes in these objectives or student learning activities.

B. Human relations objectives should be reviewed and recommendations developed for implementing changes in these objectives for all career programs.

C. For health science programs, review the program objectives related to equipment "creativeness," and develop recommendations for implementing changes.

D. As subsequent data warrants, the general career program objective of developing entry level skills only should be evaluated in light of possible objectives for career advancement.

Problems and Revisions

The following problems have been experienced in conducting the employer follow-up.

- The interview phase of the employer follow-up is a difficult one for the program coordinators and directors to carry out. Because of the time consuming nature of the interviews as well as the difficulty in making appointments with various supervisors of the employees, the interview phase has resulted in limited data collection.
- Employers' responses to the questionnaire items could be characterized as reflecting a "halo effect." This makes interpretation of the data difficult and conclusions based on the data interpretation are tenuous.

- In the data analysis phase, the lack of an agreed upon criterion of what is "excellent" and what is "good" has made data interpretation difficult.
- The instruments' reliability and predictive validity need to be established.

In an effort to further develop the employer evaluation system, the following revisions are being contemplated:

- Explore other instrument forms. For example, randomly select items which could be used for inter-program comparison and develop specific items for the individual career programs; develop graphic rating scales; tailor the items for each program area and compare on the skill area concept.
- For each program, establish performance standards against which results can be compared.

Positive Outcomes

The employer follow-up has stimulated a number of positive outcomes:

- High ratings for the training of occupational graduates provide empirical evidence that MVCC occupational programs are meeting the needs of the employers.
- Interviews conducted by MVCC staff have resulted in better relations between staff and community employers. Future intership contacts and employer input into MVCC career program have resulted.
- For specific occupational programs, recommendations for review of specific course objectives have been made.

In spite of a few time consuming problems, the benefits far outweigh the problems in developing an employer evaluation system. As a result of this survey, Moraine Valley has greatly enlarged its evaluative data base for its career programs.

Bibliography

Banathy, B. H. The Design of an Employer-Based Career in Education Model, paper presented at the 1973 AERA annual meeting: special interest group on systems research in New Orleans, Louisiana, March, 1973.

Brandywine College Brandywine College Second Annual Follow-Up Study of the Class of 1969, Schenectady, New York, January, 1973.

Butler, R. L. and York, E. G. What Teacher-Coordinator Should Know About Cooperative Vocational Education, The Center for Vocational and Technical Education, The Ohio State University, Columbus, Ohio, August, 1971.

Flanagan, J. C. "The Critical Incident Technique," Psychological Bulletin, Vol. 51, No. 4, 1954.

Garland, T. C. and Carmondy, J. F. Practices and Outcomes of Vocational-Technical and Community Colleges, American College Testing Research Reports, No. 37, Iowa City, Iowa, October, 1970.

Henderson, J. T. Program Planning with Surveys in Occupational Education, American Association of Junior Colleges, Washington, D.C., 1973.

Larson, M. E. Review and Synthesis Analysis for Curriculum Development in Vocational Education, The Center for Vocational and Technical Education, Ohio State, Columbus, Ohio, October, 1969.

McCormick, E. J.; Jeannert, P. R. and Mecham, R. C. A Study of Job Characteristics and Job Dimensions as Based on the Position Analysis Questionnaire, Occupational Research Center, Purdue University, Lafayette, Indiana, 1969.

Moraine Valley Community College Follow-Up of Occupational Graduates, Palos Hills, Illinois, September, 1972.

Suffolk Community College Follow-Up of Study of Career-Oriented Curriculums, 1966-Phase I-Job Entry or Transfer, Belden, New York, 1969.

Tuckman, B. U. The Development and Testing of an Evaluation Model for Vocational Pilot Programs, Rutgers University, New Brunswick, New Jersey, 1967.

Veldman, D. J. Fortran Programming for the Behavioral Sciences, Holt, Rinehart and Winston, New York, 1967.

A P P E N D I X E S

Appendix A

MORAINE VALLEY COMMUNITY COLLEGE
Employer Follow-Up

Provide the following information about the employee listed below.

Name of Employee: _____ Date: _____

Employer: _____

Job Title of Employee: _____

Description of Duties: _____

Title of Person Evaluating Employee: _____

* *

A. 1. Is the above named employee still in your employ? Yes _____ No _____

2. If not, was his (her) termination voluntary? Yes _____ No _____

3. Reason for termination: _____

4. Approximately how long is (was) the person in your employ? _____

* *

B. Technical Skills

For items 1-5, rate the following technical skills by circling the letter before the number of each statement. Use this key:

E = Excellent
G = Good
F = Fair
P = Poor
No = Not Observed
Na = Not Applicable

E G F P No Na 1. Handles equipment or instruments with speed.

E G F P No Na 2. Manipulates equipment or instruments with accuracy.

E G F P No Na 3. Cares for equipment or instruments.

E G F P No Na 4. Adapts equipment for new tasks.

E G F P No Na 5. Aware of equipment's capabilities.

For the remaining items, rate the following skills by circling the letter before the number of each statement. Use this key:

He = Highly Effective
E = Effective
I = Ineffective
Hi = Highly Ineffective
No = Not Observed
Na = Not Applicable

C. Human Relations

He E I Hi No Na 6. Cooperates with fellow workers to get job done.

He E I Hi No Na 7. Cooperates with supervisor and other higher officials.

He E I Hi No Na 8. Presents ideas and recommendations to persons or groups in a non-offending way.

He E I Hi No Na 9. Promotes the use of new ways of doing things.

He E I Hi No Na 10. Develops an acceptable course of action when different points of view are presented.

He E I Hi No Na 11. Accepts criticism without becoming resentful.

* * * *

He = Highly Effective
E = Effective
I = Ineffective
Hi = Highly Ineffective
No = Not Observed
Na = Not Applicable

E. Problem Solving Skills

He	E	I	Hi	No	Na	21.	Ability to recognize a problem.
He	E	I	Hi	No	Na	22.	Ability to define a problem.
He	E	I	Hi	No	Na	23.	Ability to consider alternative solutions.
He	E	I	Hi	No	Na	24.	Ability to implement a successful solution.
He	E	I	Hi	No	Na	25.	Assigns time for carrying out the various work activities (scheduling).
He	E	I	Hi	No	Na	26.	Combines others' efforts into a common action (coordinating).
He	E	I	Hi	No	Na	27.	Divides work into individual jobs and provides a method of blending the individual efforts (organizing).
He	E	I	Hi	No	Na	28.	Uses present and past information to develop a future course of action (planning).

* * * *

Appendix A

MORAINE VALLEY COMMUNITY COLLEGE
Employer Interview Schedule

Name of Employee: _____ Date: _____

Employer: _____

Name of Person Evaluating this Employee: _____

Title: _____

* *

1. "Describe a situation when this employee performed a job-related task very effectively."

   "Next, specify the abilities, techniques and skills this employee used in performing this task."

   (Record these responses in verbatim.)

2. "Describe a situation when this employee performed a job-related task very ineffectively."

   "Next, specify the abilities, techniques and skills this employee should have used in performing this task."

   (Record these responses in verbatim.)

3. "What has been (was) this employee's greatest strength?"

4. "What has been (was) this employee's greatest weakness?"

5. "Please tell me the number of the answer choice which best states your evaluation." (Hand employer answer card, side 1 up.)

   (Say) "This employee's chances for advancement, compared with your other employees in similar positions, are (were)?" (Circle employer's response.)

   1 - Better 2 - Same 3 - Not as Good 4 - No Chance at All 5 - No Opinion

6. "Use the other side of the response card (side 2). Based on your observations of this employee's training, would you employ more MVCC graduates for this same position?"

   1 - Definitely 2 - Maybe 3 - Definitely Not 4 - No Opinion

7. "Other comments on this graduate's preparation for this position:"

8. "Does the employer desire a copy of this final report?"

   _____ Yes

   _____ No

Concluding Remarks

"Your responses in no way individually reflect upon your employee. We are undertaking a thorough evaluation of our programs and will strengthen them whenever the results of interviews such as this one indicate the need."

Pick up the questionnaire. If the questionnaire is not complete, ascertain when it will be finished. Leave a Moraine Valley return envelope if questionnaire is not completed.

Name of Interviewer: _____

Appendix B

Case Study of Shorthand Course Revision

This case study describes how data gathered from the interview-schedule of the employer follow-up survey was used in program revision.

Staff from the business program area, which includes secretarial science courses, conducted a series of interviews with supervisors of business program graduates during the spring of 1972. Among those interviewed were employers of MVCC secretarial science graduates. Using the interview-schedule, employers were asked to respond to strengths and weaknesses as well as to describe activities which they felt the student had performed adequately and inadequately. Analysis of responses to these general open-ended questions revealed two deficiencies in the shorthand training of our secretarial science graduates: proficiency level (speed) and the end product (mailable letter). Employers revealed that the students' speed at taking shorthand as well as being able to produce a mailable letter directly from the dictation were not being accomplished.

The director of the business-related programs, after reviewing the data, called a meeting with the secretarial science program coordinator and the instructors. At this meeting, the instructors agreed that their students were not getting enough time in skill building activities. The instructors recommended to the director that an additional laboratory hour per week be established to allow the student to develop more adequate skills in taking shorthand.

To determine the amount of laboratory time other area community colleges were devoting to shorthand, the director of business-related programs conducted a survey. Based on data from this survey, the director was able to determine that Moraine Valley offered fewer lab contact hours for secretarial science students than other area colleges.

Based on the recommendations of the instructors and on data from the survey, a revision in the time allocated to lecture and lab was made. One hour of lecture was deleted and one additional lab hour per week was added to the secretarial science shorthand course to overcome the two deficiencies.

In conclusion, information which was gathered through an informal interview revealed program weaknesses which heretofore had not been articulated. The structured questionnaire had not revealed these weaknesses either. Only through the interview situation were the weaknesses revealed in the training of MVCC secretarial science graduates.

Appendix C

Conclusions from 1972 Employer Follow-Up*

A. Employers rated as "effective" or "highly effective" the training in technical skills, human relations and problem-solving that their employees received at Moraine Valley Community College.

B. Evaluations of the training for public service, health and business program areas were similar.

C. In the evaluation of technical skills, public service employees were rated slightly higher than graduates of business and health programs.

D. "Cooperation with fellow workers" by public service graduates received the highest rating of the human relations skills. Written communication by health graduates was rated the lowest.

E. "Coordination" (problem-solving skill) was rated higher for business graduates than for graduates of other programs.

F. Personality factors were mentioned most often by the supervisors as areas of strength or weakness.

G. The chances for advancement of half the MVCC program graduates were rated higher than the chances of other employees in similar positions.

H. Supervisors indicated an interest in hiring MVCC graduates.

I. A positive correlation exists between MVCC evaluation and job performance evaluation.

* Taken from: Employer Evaluation of Occupation Graduates, Moraine Valley Community College, Palos Hills, Illinois, 1972.

Appendix D

Rotated Factor Loadings
of Employer Follow-Up for Spring 1972

	I	II
(Human Relations)	(Factors)	
Alternative solutions	.726	-.503
New ways of doing things	.704	-.321
Problem recognition	.701	-.434
Planning	.694	-.473
Listens	.686	-.269
Acceptable course of action	.678	-.250
Implement solution	.676	-.459
Organizing	.674	-.443
Accessible	.671	-.446
Oral presentation	.653	-.278
Scheduling	.618	-.376
Helps people	.604	-.343
Problem definition	.594	-.403
Cooperation--Workers	.587	-.392
Asks questions	.586	-.447
Writing	.562	-.119
Non-offending ideas	.495	-.359
Accepts criticism	.450	-.246
Coordinating	.406	-.223
(Technical Skills)		
Handles equipment with speed	.232	-.876
Equipment maintenance	.287	-.767
Manipulates equipment with accuracy	.538	-.671
Cooperation--Supervisors	.331	-.655
Equipment orientation	.399	-.652
Creative use of equipment	.495	-.619

Per cent of variance accounted for was: 56.09%

Appendix E

Rotated Factor Loadings
of Employer Follow-Up for Spring 1973

	I	II
(Human Relations)	(Factors)	
Organizing	.855	-.520
Coordinating	.791	-.462
Consider alternative solutions	.776	-.498
Scheduling	.735	-.513
Problem definition	.735	-.435
Promotes new ways	.659	-.372
Organizes thoughts (writing)	.637	-.188
Problem recogaition	.633	-.415
Accomplishes--group situations	.626	-.322
Grammar, spelling	.612	-.424
Acceptable course	.605	-.397
Cooperates--fellow workers	.603	-.095
Asks questions	.592	-.427
Implement solutions	.591	-.418
Non-offending ideas	.589	-.220
Adapts writing (audience)	.581	-.368
Helps people	.579	-.348
Poised--speaking	.552	-.317
Accessible to others	.534	-.304
Cooperates--supervisor	.518	-.010
Planning	.497	-.299
Accepts criticism	.487	-.324
Listens to others	.471	-.237

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(Technical Skills)		
Adapts equipment for new tasks	.329	-.927
Handles equipment with speed	.264	-.884
Aware of equipment capabilities	.354	-.742
Manipulates equipment with accuracy	.317	-.735
Cares for equipment	.313	-.686

Per cent of variance accounted for was: 57%